**Exhibit No. \_\_\_ T (DJR-1T)**

**Docket UE-111190**

**Witness: Deborah J. Reynolds**

**BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

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| **WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,**  **Complainant,**  **v.**  **PACIFIC POWER & LIGHT COMPANY,**  **Respondent.** | **DOCKET UE-111190** |

**TESTIMONY**

**OF**

**DEBORAH J. REYNOLDS**

**STAFF OF**

**WASHINGTON UTILITIES AND**

**TRANSPORTATION COMMISSION**

***Electric Cost of Service, Revenue Allocation and Rate Design***

***Low-Income Bill Assistance Program***

**January 6, 2012**

**TABLE OF CONTENTS**

I. INTRODUCTION 1

II. SCOPE AND SUMMARY 2

III. REVENUE ALLOCATION AND RATE DESIGN 4

1. Electric Revenue Allocation – Cost of Service and Rate Spread 4
2. Electric Rate Design 9

# LOW-INCOME BILL ASSISTANCE PROGRAM 13

**LIST OF EXHIBITS**

Exhibit No. \_\_\_ (DJR-2) Rate Spread Summary

Exhibit No. \_\_\_ (DJR-3) Low-Income Bill Assistance Plan

# INTRODUCTION

### Q. Please state your name and business address for the record.

A. My name is Deborah Reynolds. My business address is the Richard Hemstad Building, 1300 S. Evergreen Park Dr. SW, Olympia, WA 98504-7250. My e-mail address is [dreynold@utc.wa.gov](mailto:dreynold@utc.wa.gov).

### Q. By whom are you employed and in what capacity?

A. I am employed by the Washington Utilities and Transportation Commission (“Commission”) as a Regulatory Analyst in the Energy Section of the Regulatory Services Division. My employment at the Commission began in 1999.

### Q. Please describe your education and your professional qualifications?

A. I have a Bachelor of Science degree in General Studies emphasizing ecology and statistics and a Master of Regional Planning degree, both from Washington State University. I attended the National Association of Regulatory Utility Commissioners’ Annual Regulatory Studies Program in August 2004, the New Mexico State University’s rate case basics workshop in May 2008, Electric Utility Consultants, Inc.’s cost of service and rate design workshops in August 2008, the International Energy Program Evaluation Conference and training in August 2009, as well as a number of other utility related seminars, conferences, and training opportunities.

As a Regulatory Analyst for the Commission, I am responsible primarily for reviewing and evaluating conservation programs, conservation resource planning, cost of service, rate spread and rate design, decoupling, reliability, service quality, low-income issues, and other analyses in general rate case and tariff filings of electric and natural gas utilities regulated by the Commission. I also provide technical assistance to companies on energy regulatory matters.

I have participated in the development of Commission rules and examined utility reports for compliance with Commission regulations. I have also presented Staff recommendations at numerous open public meetings. I have filed testimony on decoupling in Avista’s consolidated general rate case, Dockets UE-090134, UE-090135 and UG-060518, and Staff comments on conservation target filings in Dockets UE-100170, UE-100176, and UE-100177. I have filed revenue allocation, rate design and decoupling testimony in Puget Sound Energy’s general rate case, Dockets UE-111048 and UG-111049.

# SCOPE AND SUMMARY

### Q. What is the purpose of your testimony?

A. I provide Staff’s recommendations on electricity revenue allocation and rate design for Pacific Power & Light Company (“PacifiCorp” or the “Company”), given the Staff recommended revenue increase presented by Mr. Michael Foisy. I also provide a plan for Low-income Bill Assistance that has been discussed with the Company, Public Counsel and the Energy Project.

### Q. Please summarize your recommendations for electricity revenue allocation and rate design.

A. I accept the Company’s proposed electricity revenue allocation and rate design for the purposes of this general rate case.

### Q. Please summarize the changes to Low-income Bill Assistance.

A. The discussions resulted in three main changes to LIBA: 1) certify a share of the client population to be eligible for a two-year period, thus increasing the annual number of participants in the program; 2) increase agency funding for each client certification; and 3) increase the average benefit by 10 percent following this general rate case and by twice the percentage of any general rate increase during the next five years.

### Q. Have you prepared any exhibits in support of your testimony?

A. Yes. I have prepared the following exhibits in support of my testimony:

* Exhibit No. \_\_ (DJR-2), Rate Spread Summary
* Exhibit No. \_\_ (DJR-3), Low-Income Bill Assistance Plan

# REVENUE ALLOCATION AND RATE DESIGN

## Electric Revenue Allocation - Cost of Service and Rate Spread

### Q. Please explain revenue allocation and rate design.

A. Revenue allocation, also known as “rate spread”, is the process of determining the portion of total revenues to be collected from each rate schedule. Rate design takes the total revenue to be collected from each rate schedule and determines the specific charges within the schedule, such as the basic charge per month, the demand charge per kilowatt, and the exact cents per kilowatt-hour.

### Q. What is the philosophy behind allocating revenues to the rate schedules?

A. The basic philosophy is to charge customers for the costs they impose on the total system. The premise of cost causation is present in many aspects of determining rates in a price-regulated industry. A precise calculation of the costs to be recovered by the customers on each rate schedule is possible, given any one set of allocation assumptions. However, the Commission has often stated that factors in addition to cost weigh in the rate spread decision, including the appearance of fairness, perceptions of equity, economic conditions in the service territory, and stability.

### Q. What data are necessary to determine a fair allocation of revenues to the customer classes and how is that data used?

A. The utility must collect data on the use of electricity across a broad spectrum of all customers. This is known as a load study. While it is not feasible to precisely measure every customer’s load, statistical sampling provides sufficient data for the intended purposes. For each customer sampled, the data collected should include, at a minimum, the electricity consumed during short time intervals around the clock and over an entire year. The purpose is to group customers into like patterns of use, to determine the time periods at which those customers demand the greatest amount of kilowatts, to compare the peak periods of a group to the lowest use periods within the same group, and to compare each group of customers to the other groups. The utility must also collect data on how it produces and buys electricity to meet customer needs.

A company’s costs and plant balances, or rate base, are sorted into the basic functions of doing business such as generation, transmission, and distribution. Then the expenses and rate base are further classified as customer-related, energy-related, or demand-related. Customer-related costs are those that vary as customers are added to or subtracted from the system. Energy-related costs vary by total consumption. Demand-related costs vary by the power required to meet the relative demands of customers on each rate schedule at the time of the total peak demand on the system.

The customer consumption data from the load study is used to determine allocation factors for each cost category. Those allocation factors are then applied to the various classifications of costs to determine the cost responsibility of the customers on each rate schedule.

### Q. Does Staff accept the Company’s method to allocate electric plant and expenses to the current rate schedules?

A. Yes. Mr. Meredith presents the Company’s cost of service study in Exhibit No. \_\_ (RMM-5). That cost of service study fairly presents the costs imposed on the system by the customers on each rate schedule.

### Q. Please explain the current revenue to cost ratios per rate schedule that result from the Company’s cost of service study.

A. The current relationships between the cost of providing service and the revenue appear on Exhibit No. \_\_ (RMM-5), Tab 4.0, page 1. Column M shows the percentage change from current revenues to match revenue to the current cost of service study. The numbers in each of the rate schedule rows show each schedule’s percentage difference of costs recovered from costs incurred. For example, in row 1, revenues from residential customers under Schedule 16 could increase 3.68 percent to precisely recover the costs allocated to those customers. And in row 7, revenues from street lighting customers on Schedules 15, 52, 54 and 57 could decrease 14.94 percent to precisely recover the costs allocated to those customers.

### Q. Please explain the current revenue to cost percentages that result from the Company’s cost of service study.

A. Staff calculated the existing revenue to cost percentages shown in column N of its Exhibit No. \_\_ (DJR-2).[[1]](#footnote-1) Residential service in Schedule 16 is below parity at 96 percent of the Company’s calculated cost of service, and street lighting service is above parity at 118 percent of the Company’s calculated cost of service.

Ideally, each class’s parity percentage should equal 100 percent indicating that the rate of return on the rate base allocated to each schedule would be the same. A parity percentage of less than 100 indicates that the customers on that schedule are not paying enough to recover the costs allocated to that schedule. Therefore, those customers should typically get a greater than average rate increase. Conversely, schedules with a parity percentage greater than 100 are contributing more than necessary to recover the costs allocated to them. Those customers deserve a less than average rate increase, or even a rate decrease, to bring their rates in line with the costs allocated to them.

### Q. Is it possible to achieve a parity percentage of 100 for every rate schedule?

A. It is arithmetically possible with a given set of assumptions. But it is not so easy to do in practice. The assumptions and results of the cost of service study are a subject of debate between the various consumer advocates. Each advocate can, and often does, present a different cost of service study.

### Q. Does Staff consider the Company’s cost of service study a fair representation of the class contributions to the overall rate of return?

A. Yes. Staff’s adjustments to electric revenue requirement revise the absolute numbers, but the relative proportion of each schedule’s contribution to the total cost of service remains the same.

### Q. What increase to revenues does PacifiCorp propose for each rate schedule?

A. PacifiCorp proposed an overall revenue increase of 4.3 percent. In order to move all rate schedules closer to parity, PacifiCorp proposed in Exhibit No. \_\_ (WRG-3) an increase of 4.3 percent to the following schedules:

* + Schedules 16/17/18, Residential;
  + Schedules 24/33/36/40/47/48/54 Commercial and Industrial;

PacifiCorp proposed a lesser increase of 1.0 percent to the Public Street Lighting Schedules 15, 51, 52, 53 and 57 in response to the results of the cost of service study.

### Q. What is Staff’s proposed revenue allocation?

A. As shown on Exhibit No. \_\_\_ (DJR-2), Column P, Staff applied its proposed average increase of 1.1 percent to all schedules except for street lighting. The schedules receiving an increase will remain within 10 percent of parity.[[2]](#footnote-2) Street lighting schedules, however, even without an increase, still have a parity percentage of 116 percent. The Company should address street lighting schedules more fully in its next general rate case filing.

### Q. Does Staff accept the Company’s proposed revenue allocation?

A. In spirit, yes. Staff’s overall 1.1 percent increase is applied to schedules other than street lighting, and 0.0 percent is applied to the street lighting schedules. This is similar to the Company’s proposed equal percent increases to schedules other than lighting with a one percent increase to the lighting schedules. Exhibit No. \_\_\_ (DRJ-2), Column O shows Staff’s recommended revenue allocation using Staff’s recommended revenue requirement.

## Electric Rate Design

### Q. Please describe the basic concept of rate design.

A. Rate design concerns the various rate elements within a rate schedule. These elements may include the monthly basic charge, demand charges, reactive power charges, and energy charges.

### Q. What are the principles of sound rate design?

A. Sound rate design should be guided by the following policy objectives: simplicity, appropriate price signals, stability, gradualism, fairness, justness, reasonableness, and sufficiency.[[3]](#footnote-3)

Simple rates are made up of units of service like kilowatt hours or therms that are easy for customers to understand. If rates are complicated, the price signal may get lost in the noise. Different rate designs are appropriate for customers with different levels of sophistication. Residential customers may be best served by a fixed monthly charge and a charge per unit of use, whereas large commercial customers may be best served by per unit charges for both demand and energy.

Fair rates should create a system where each customer and each customer class pays for the costs they impose on the system. This principle, called cost causation, is actually very difficult to achieve, because customers within a given class have similar but not identical use characteristics. It is also difficult to keep fair rates simple. For example, rate designs that include demand charges increase the number of elements that make up a customer bill. This complicates the bill, but more accurately reflects the costs imposed on the system by a particular customer.

Gradualism means that changes in rates to achieve a particular goal are made in steps, rather than all at once, thus mitigating substantial impacts to any one rate schedule or customer within a schedule. The idea of gradualism may be used to evaluate overall bill changes as well as changes in components of bills, such as the customer basic charge. A side effect of gradualism is that it blunts the incentive for customers to change energy use behaviors that more abrupt price changes may prompt.

Sufficiency means that rates provide a reasonable opportunity for a utility to recover its costs of providing service plus a fair return on its investment. The Commission has suggested that the right balance point for recovery of fixed costs via the customer basic charge is about one-fourth of the fixed costs allocated to residential customers, or about eight to ten percent of a customer’s average annual bill.[[4]](#footnote-4)

As the costs of the electric system increase, more attention has been directed toward energy efficiency through the exploration of rate designs that encourage customers to use the least amount of energy possible to achieve the same desired comfort levels. Utilities are encouraged to increase the per unit charge as much as possible, with the idea that customers will reduce their use when they see their bills increase. This effect, known as price elasticity, is hard to measure and even harder to predict.

### Q. Is there a standard format for residential electric rate design?

A. Yes, the standard format is a two-part rate tariff, consisting of a small basic charge and volumetric rates that recover both fixed and variable costs.

### Q. What factors should be considered in reviewing price signals resulting from rate design?

A. A review of price signals should consider low, high, and average use customer experience under the current tariff, and what happens to typical customer bills under multiple conservation scenarios. It should also compare price signals under other rate designs. The review should also compare the message the customer gets from the price signal to the impact of that price signal on a company.

Proponents of conservation suggest that maintaining higher use charges are a stronger incentive for customers to conserve. However, that very situation has the opposite effect on a company’s incentive to sell more units of its most profitable product. This exacerbates the utilities disinterest to invest in conservation measures. It is very difficult, however, to generalize about incentives to conserve, even among the same class of customers.

### Q. Did Staff review PacifiCorp’s proposed electric rate design?

A. Yes. The Company’s proposed rate design is presented by Mr. Griffith at Exhibit No. \_\_ (WRG-1T), beginning at page 2. The Company’s revised rates are presented in Mr. Griffith’s Exhibit No. \_\_ (WRG-3).

### Q. Please summarize the Company’s proposed electric rate design.

A. PacifiCorp proposes an equal percentage increase to all elements of rates for all schedules where applicable, as described in Mr. Griffith’s testimony. Exhibit No. \_\_ (WRG-1T), page 3, lines 19-23. This includes a smaller but equal increase for street lighting schedules.

### Q. Does Staff accept the Company’s rate design proposal?

A. Yes. Staff accepts the equal percentage increase to all components of rate design where applicable in this case. This would exclude increases for street lighting schedules. An average residential customer using 1300 kilowatt-hours-per-month would see its electric bill increase by $1.33, for a bill total of $104.41. This impact includes a residential basic charge increase from $6.00 to $6.07 per month. An equal percentage increase to all components of rate design maintains the ratio of revenues collected by each rate component. An equal percentage increase also maintains each rate class within 10 percent of parity without causing rate shock and yields a reasonable compensation for the service rendered.

# LOW-INCOME BILL ASSISTANCE PROGRAM

### Q. What has the Commission required concerning low-income bill assistance (LIBA)?

A. In the previous general rate case, the Commission ordered the Company to meet with “[t]he Energy Project, Staff and the affected agencies” to engage in a collaborative process to discuss the current allocation of the LIBA surcharge collections, the interval for eligibility certification, and the level of administrative fees. The Commission also required Staff to report on the results of this process by September 25, 2011.[[5]](#footnote-5)

### Q. What were the results of these discussions?

A. The discussions resulted in a proposal to gradually increase multiple aspects of the program over the next five years as shown in Exhibit No. \_\_ (DJR-3). The main changes to LIBA: 1) certify a share of the client population to be eligible for a two-year period, thus increasing the annual number of participants in the program; 2) increase agency funding for each client certification; and 3) increase the average benefit by 10 percent following this general rate case and by twice the percentage of any general rate increase during the next five years. This will increase the total program funding from $1.5 million in 2011 to $1.7 million in 2012. At the end of the five year plan, the total program funding could be $2.8 million.

### Q. How will certifying clients as eligible for LIBA for two years increase the annual number of participants in the program?

A. Beginning in 2012, ten percent of clients will be certified as eligible for a two-year period, and in each of the following three years, an additional five percent of clients will be certified for two years up to 25 percent in 2015. This results in an increase in the total number of participants in the program from 4,720 to 5,900 as shown in Column F, Exhibit No. \_\_ (DJR-3). This is helpful in part because it does not increase the burden on the agencies, who continue to certify the same number of clients each year, as shown in Columns D and E of the exhibit. At the same time, it extends the program to more households, which both the Company and the agencies have advocated in past program increases.

### Q. Please explain how this works in a particular year.

A. As an example, in 2016, the agencies will certify 3,540 clients for one year and an additional 1,180 clients for two years, totaling 4,720 clients certified and participating during 2016. An additional 1,180 participants during 2016 will have been certified the previous year, bringing the total number of customers participating in 2016 to 5,900.

Summary of 2016 Participants

|  |  |  |
| --- | --- | --- |
| 2016 Participants certified in 2016 for one year |  | 3,540 |
| 2016 Participants certified in 2016 for two years | + | 1,180 |
| 2016 subtotal of clients certified | = | 4,720 |
| 2016 Participants certified in 2015 | + | 1,180 |
| Total 2016 Participants | = | 5,900 |

### Q. At the end of the five-year period, then, 25% of the LIBA participants will not have to come in to be certified to get a second year of participation?

A. That is correct. The 25% figure reflects the portion of the clients who are put onto the two-year certification at intake in 2016. However, the number of LIBA participants who will be on a two-year certification in that year is even higher. Of the 5900 participants, 1180 will be in the first year of a two-year certification and an additional 1180 will be in the second year of a two-year certification. This means that 40% of the customers participating in 2016 will be in some phase of a two-year certification.

### Q. Why not simply convert all participants to two-year certification?

A. There are two reasons to continue certifying some participants for one year. First, there are many more households who are eligible to participate than can get onto the program in any given year.[[6]](#footnote-6) Second, the eligible population is more mobile than the average customer and their incomes tend to be more variable. Locking everyone into two-year-certification could bar potential participants who really need short-term help from access to bill assistance.

### Q. How will two-year participants be selected?

A. The main focus will be on households whose income is not likely to change, such as elderly or disabled customers on “fixed” incomes.

### Q. Are there enough customers who fit this description?

A. We do not know. The agencies will review previous years’ participants to identify likely candidates for two-year certification in the next program year.

### Q. How will the agency compensation per client increase?

A. Upon approval of this plan, the agency compensation per client will increase to $65.00. It will increase by $2.50 each year after 2012 up to $75.00 in 2016 as shown in Column B, Exhibit No. \_\_ (DJR-3). This increase is in part justified by the rate of inflation since 2004 when the agency compensation was set at $48.00 per client.

### Q. How will the average benefit increase?

A. Upon approval of this plan, the average benefit will increase by 10 percent as shown in Column H, Exhibit No. \_\_ (DJR-3). In the following years, the average benefit will increase by two times the percentage of any residential general rate increase between 2013 and 2016.[[7]](#footnote-7) The average benefit per household is difficult to predict in PacifiCorp’s system of three tiers of rate discounts. Participant’s bills are reduced each month over the winter months so an overall average benefit depends on how many households are in each tier and on various consumption factors including how cold it is in that particular winter.

### Q. When and how will the rate discounts in Schedule 17 be changed?

A. Upon approval of this plan, changes to the rate discounts found in Schedule 17 will be filed by the Company in compliance with the general rate case determination.[[8]](#footnote-8) In that filing, the Company will design the rate discounts to deliver approximately the average benefit of $290 listed in Column H, Exhibit No. \_\_ (DJR-3). Staff suggests that any other aspects of the five-year plan that would be contained within Schedule 17, such as the number of participants in each of the five years, be filed at the same time, and urges the Commission to allow at least four weeks for the company to file the tariff, and four weeks for Staff to review the tariff. In future filings, Staff suggests that the Company continue filing Schedule 17 with its general rate case filings, and use the most recent three years of program participation and any actual future rate increases resulting from general rate cases to determine the average benefit to be delivered by the proposed rate discounts. Column N of the exhibit shows assumed rate increases for illustrative purposes. Actual changes to the rate discounts, and the timing of the changes, must be determined by final commission order in future general rate cases.[[9]](#footnote-9)

### Q. Why is it appropriate to increase the average benefit by two times the percentage of a general rate increase?

A. These increases are making up for a comparatively low benefit level in the Company’s program and will improve the program’s ability to protect low-income customers from the effects of a rising energy burden. Our intent is to increase the average benefit level that LIBA provides to a level more comparable to that provided by other investor-owned companies.

### Q. How will the monthly surcharges in Schedule 91 be affected by these changes?

A. The Schedule 91 monthly surcharges are paid by all customers to support LIBA. The annual increases in number of clients served and in the agency compensation per client will cause the revenue requirement and therefore the monthly surcharges for Schedule 91 to increase over the five years on an annual basis as estimated in Columns K and L, Exhibit No. \_\_ (DJR-3). In the first year, the residential surcharge will increase from 55 cents to 63 cents per month. Increases in later years will be determined by future general rate cases or annual filings.

### Q. What if the Company does not come in for or receive a general rate increase in a given year? Will the program funding still change?

A. Yes, the program funding will need to change even if the Company does not receive a general rate increase because the agency compensation per client increases annually and more customers are being served each year. Because the number of two-year certifications increases by 5% each year, even though the agencies will always be certifying the same number of clients, the number of participants will increase. In the second year (2013), there will be 472 additional participants; in the third year, 708, and so on until 2016. Therefore, Schedule 91 should be filed annually on or around May 1.[[10]](#footnote-10) It should not be filed with the initial intervening general rate case filings. Rather, if a general rate increase results in an increase to the rate discounts in Schedule 17, the Commission could require the Company to file the surcharges in Schedule 91 as a compliance filing with a specific separate effective date following the general rate case final order.[[11]](#footnote-11)

### Q. Does this conclude your testimony?

A. Yes.

1. Exhibit No. \_\_ (DJR-2) is an excerpt from Exhibit No. \_\_ (RMM-5), Tab 4.0, page 1. Staff hid rows and columns so that the material would match the Company’s exhibit. Column N as shown was calculated using existing revenue divided by existing cost of service, found in a table that is in rows hidden on Staff’s exhibit. [↑](#footnote-ref-1)
2. *Washington Utilities and Transportation Commission v. PacifiCorp d/b/a Pacific Power & Light Company*, Docket UE-100749, Order 06, at ¶ 316 (March 25, 2011). “…all major customer classes are within 97 to 107 percent of parity.” [↑](#footnote-ref-2)
3. James C. Bonbright, et al., *Principles of Public Utility Rates* 382-388 (2nd ed. 1988). [↑](#footnote-ref-3)
4. *WUTC v. Puget Sound Energy, Inc.,* Dockets UE-060266 and UG-060267, Order 08, ¶ 139 (January 5, 2007). [↑](#footnote-ref-4)
5. *WUTC v. PacifiCorp*, Docket UE-100749, Order 06, at 124:387. [↑](#footnote-ref-5)
6. Staff Investigation, Docket U-101973. [↑](#footnote-ref-6)
7. There are a number of moving pieces which may affect the need for increased or decreased bill assistance in a given year, such as customer growth, the health of the economy and federal funding for energy assistance. This proposal is intended to free parties from the need to file testimony about LIBA in each general rate case between now and 2016. As always, parties are not restricted from requesting low-income discounts as part of a general rate case. *RCW 80.28.068*. [↑](#footnote-ref-7)
8. “The commission will state in its final order authorizing or requiring a compliance filing the date by which the compliance filing must be made and the effective date that should appear on any tariff sheets that are required as part of a compliance filing. The commission may state the amount of time it will require to examine any proposed compliance tariff sheets between their filing and their proposed effective date.” *WAC 480-07-883 (3) (a).* [↑](#footnote-ref-8)
9. “Upon request by an electrical or gas company, or other party to a general rate case hearing, the commission may approve rates, charges, services, and/or physical facilities at a discount for low-income senior customers and low-income customers. Expenses and lost revenues as a result of these discounts shall be included in the company's cost of service and recovered in rates to other customers.” *RCW 80.28.068.* The general rate case language was added to the statute in 2009, long after the beginning of LIBA. S.S.B. 5290, Section 1, 61st Leg., Reg. Sess. (Wash. 2009). [↑](#footnote-ref-9)
10. RCW 80.28.068 allows requests for discounts to low-income rates and services, such as those found in Schedule 17, in a general rate proceeding. In practice, the Commission has allowed recovery of costs to occur through a tariff rider such as Schedule 91. [↑](#footnote-ref-10)
11. The Commission may require a compliance filing of a tariff that was not suspended in an initial rate case order. Docket UE-111190, Order 01, at 3:18. Also*, WAC 480-07-880 (1) and 480-07-883.* [↑](#footnote-ref-11)